

REMARKS

Claims 1-18 remain in the application. Claim 1 is in independent form. Claims 2-18 each depend, directly or indirectly, from Claim 1.

Claim 1 has been amended to add the limitation (feature):

“the acid anhydride group and/or the carboxyl group is reacted with the epoxy group at molding, and the acrylic block copolymer (A) is converted to crosslinked”.

Support for the limitation is found on page 40, at lines 15-19, of the English language specification.

In the invention defined by Claim 1, the component (B) acts as a plasticizer to improve molding flowability at molding the composition. At the same time, the acid anhydride group and/or the carboxylic group is reacted with the epoxy group, and the acrylic block copolymer (A) is converted to crosslinked. As a result of the crosslinking reaction, a composition can obtain both the excellent heat resistance and powder slush property (see the specification, page 7 lines 21-24, page 36 lines 5-14).

The combination of excellent heat resistance and powder slush property can be seen as a surprising and unexpected result of the present invention. This result is clearly shown by comparing Example 7 with Comparative Examples 2 and 5 in the specification. In that regard, refer to the following Table:

Table: Summary of Examples

	Example 7	Com. Example 2	Com. Example 5
Acrylic block copolymer (A)	100	100	100
Acrylic polymer (B) having epoxy group	10	-	-
Others	40.5	40.5	40.5
Heat resistance	O	×	O
Powder slush property	O	O	×
Mn of Acrylic block copolymer (A)	67,078	62,600	92,713

In Example 7, the sample composition contained the acrylic polymer (A) having the acid anhydride group and carboxyl group, and the acrylic polymer (B) having approximately

4 of epoxy groups in a molecule. The acid anhydride and carboxylic groups of the polymer (A) were reacted with the epoxy groups of the polymer (B) at molding, and the polymer (A) was converted to crosslinked in Example 7 (See PREPARATION EXAMPLE 4, EXAMPLES 4 and 7).

In Comparative Examples 2 and 5, the sample compositions contained the acrylic polymer (A) having analogous monomer structure to Example 7, but having no acid anhydride nor carboxyl group. The polymer (B) containing epoxy groups in a molecule was not used in Comparative Examples. Thus, there was no crosslinking reaction between an acid anhydride or a carboxylic group and epoxy groups in Comparative Examples (See PREPARATION EXAMPLES 10, 12, COMPARATIVE EXAMPLES 2 and 5).

In Comparative Example 5, the heat resistance was excellent according to high molecular weight of the polymer 12 (the number average molecular weight was 92,713). However, the powder slush property was inferior to the thermoplastic elastomer composition of Claim 1.

The Applicants' invention defined by original Claim 1 was rejected under 35 U.S.C. § 103(a) over the Goetz et al. reference. Goetz et al. relates to a thermosetting coating composition comprising (a) a first reactant such as an epoxy functional acrylic polymer, (b) a second reactant such as a carboxyl functional crosslinking agent, and (c) a flow control additive containing alkyl acrylate/alkyl methacrylate blocks. The epoxy functional acrylic polymer is described as the first reactant, and a carboxyl functional crosslinking agent is enumerated as one of the examples of the second reactant. This means that the acryl type polymer containing an epoxy group (the first reactant) is reacted with the crosslinking agent (the second reactant). From the foregoing, it should be clearly understood that the composition of Goetz et al. is completely different from the Applicants' Claim 1 invention with respect to the essential ingredients of the composition and the mechanism of the crosslinking reaction. In addition, Goetz et al. does not disclose or suggest that "the acid anhydride group and/or the carboxylic group is reacted with the epoxy group at molding, and the acrylic block copolymer (A) is converted to crosslinked".

Heat resistance and powder slush property were not reviewed in Goetz et al. Thus, Goetz et al. can not obtain the excellent heat resistance nor the powder slush property of the applicants' claimed composition. The compatibility of heat resistance and the powder slush

property can be seen as surprising and unexpected results of the Applicants' invention compared to Goetz et al.

The Applicants' invention defined by original Claim 1 was also rejected under 35 U.S.C. § 103(a) over Kadedo et al. over Goetz et al. and either Nakashima et al. or Kawakubo et al. Kakeda et al.'s composition relates to a thermoplastic resin composition having improved impact resistance. A combination of the acryl type block copolymer having a carboxylic group or an acid anhydride group with an epoxy group-containing copolymer is enumerated as one of various embodiments. However, Kakeda et al. does not disclose or suggest the technical feature of the present invention wherein "the acid anhydride group and/or the carboxylic group is reacted with the epoxy group at molding, and the acrylic block copolymer (A) is converted to crosslinked". With respect to crosslinking reaction, a hydrolysable silyl group is only described among the reactive functional group (C) including a carboxyl group and an acid anhydride group (See corresponding US Publication, paragraph [0057].)

Further regarding Kakeda et al., the enumerated polyethylene-based resin having a glycidyl (epoxy) group was not reviewed in Examples. Heat resistance and powder slush property were not reviewed in Kakeda et al. Thus, Kakeda et al. can not obtain excellent heat resistance and powder slush property. The Applicants' compatibility of heat resistance and powder slush property should be seen as surprising and unexpected results compared to Kakeda et al.

With regard to the Nakashima et al. and Kawakubo et al. references, they are merely concerned with powder slush molding technology, generally. Otherwise, these references have no specific relevance to the present invention.

As described above, none of the cited references disclose, teach, or suggest the critical technical feature of the present invention in which “the acid anhydride group and/or the carboxyl group is reacted with the epoxy group at molding, and the acrylic block copolymer (A) is converted to crosslinked”. Therefore, in that context, it could not have been obvious to one of ordinary skill in the art to derive the invention of amended Claims 1-18 from the cited references. In addition, the combination of heat resistance and the powder slush property of the present invention can be seen as surprising and unexpected results of the invention compared to the cited references.

Respectfully submitted,

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